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no. 89

The Connecticut Agricultural Experiment Station.

BULLETIN No. 89.

OCTOBER, 1886.

Analyses of Superphosphates and Special Manures.

In the following tables will be found all the analyses of these two classes of fertilizers which have been made at this Station during the present year on samples drawn by our own agent from goods which were in dealers' hands. The Station assumes full responsibility both for the accuracy of the sampling and the chemical analysis only on such samples. In a large number of cases more than one sample has been drawn of the same brand of goods. For example, three samples were drawn of the sixth fertilizer given in the table: Chittenden's Fish and Potash, one from the stock of Mr. Eaton of Plainville, one from Mr. Fowler of Milford, and the third from Warner & Son of East Haddam. The analysis No. 1799 was made on a mixture of equal parts of these three samples and may be believed to represent somewhat more fairly the average composition of the goods than an analysis made on a single sample. The last column of the table of analysis is "percentage difference between cost and valuation." Its significance and the method of calculating it may be seen by noticing as before the sixth analysis, in the table, No. 1799. Here the cost is $35, the valuation is $32.08 and the difference between them is $2.92. Now by multiplying this difference by 100 and dividing it by the valuation, $32.08, we get the *percentage* advance of selling price over valuation, which advance should represent the costs and profits of the manufacturer in converting the raw materials into a mixed fertilizer, selling it and collecting on his sales.

Certain brands of superphosphates on which an analysis fee has been paid do not appear in these tables, for Station agents have not found them on sale in the places which they have visited for the purpose of collecting samples and the agents who have had these on sale have failed to report them to the Station as the law requires. In such cases the samples sent by the manufacturers themselves in compliance with the law have been analyzed and the results will appear in the annual report.

Nitrogenous Superphosphates and Guanos Sampled by the Station.

Station No.	Name or Brand.	Manufacturer.	Dealer.	Cost per ton.	Sampled by
1791	Fine Dissolved Bone.	Mapes' Formula and Peruvian Guano Co., 158 Front St., New York.	J. P. Barstow & Co., Norwich.	$35.00	Station Agent.
1819	Quinnipiac Dry Ground Fish.	Quinnipiac Fertilizer Co., N. London.	Olds & Whipple, Hartford.	40.00	"
1763	Stearns' Pure Ground Fish Guano.	Stearns & Co., 124 Front St., New York.	J. E. Leonard, Jewett City.	40.00	"
			A. R. Russell & Co., Meriden.	40.00	"
1769	Acme Fertilizer, No. 2.	C. Meyer, Jr., Maspeth, L. I.	A. R. Russell & Co., Meriden.	45.00	"
1745	Quinnipiac Phosphate.	Quinnipiac Fertilizer Co., N. London.	Berry & Sherman, Bridgeport.	38.00	"
1799	Chittenden's Fish and Potash.	National Fertilizer Co., Bridgeport.	Geo. W. Eaton, Plainville.	-------	"
			Wm. M. Fowler, Milford.	35.00	"
			D. B. Warner & Son, E. Haddam.	35.00	"
1671	Quinnipiac Phosphate.	Quinnipiac Fertilizer Co., New London.	Olds & Whipple, Hartford.	38.00	"
			P. & G. M. Williams, New London.	38.00	"
1748	Swift Sure Superphosphate.	M. L. Shoemaker & Co., Philadelphia.	J. P. Barstow, Norwich.	40.00	"
			F. Ellsworth, Hartford.	40.00	"
1770	Acme Fertilizer, No. 1.	C. Meyer, Jr., Maspeth, L. I.	A. R. Russell & Co., Meriden.	45.00	"
1755	E. Frank Coe's Alkaline Bone.	E. Frank Coe, 16 Burling Slip, New York.	Strong & Backus, Colchester.	32.00	"
1728	Bosworth Bro's Superphosphate of Lime.	Bosworth Bros., Putnam, Ct.	Manufacturer.	36.00	"
1736	Kelsey's Fish and Potash.	E. R. Kelsey, Branford, Ct.	M. S. Baldwin, Meriden.	21.–21.50	"
1735	Mapes' Complete Manure "A" Brand.	Mapes' Formula and Peruvian Guano Co., 158 Front St., New York.	Mapes' Branch, Hartford.	38.00	"
			Birdsey & Foster, Meriden.	39.50	"
			Dean & Horton, Stamford.	40.00	"
1674	Mapes' Complete for General Use.	Mapes' Formula and Peruvian Guano Co., 158 Front St., New York.	Dean & Horton, Stamford.	43.00	"
			Mapes' Branch, Hartford.	41.00	"
			Strong & Backus, Colchester.	39.00	"

NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—*Continued.*

Station No.	Name or Brand.	Manufacturer.	Dealer.	Cost per ton.	Sampled by
1679	Americus Superphosphate.	Williams, Clark & Co., Hanover Square, New York.	J. P. Root, Tolland.	$38.00*	Station Agent.
			E. M. Jennings, Southport.	38.00*	"
			Strong & Backus, Colchester.	36.00	"
			Usher & Tinker, Plainville.	38.00*	"
1797	Lister's Standard Phosphate.	Lister's Agricultural Chemical Works, Newark, N. J.	S. J. Hall, Meriden.	34.00	"
			Martin Bros., Wallingford.	33.00	"
1738	Golden Leaf Fertilizer.	Soluble Pacific Guano Co., Boston, Mass.	H. A. Stillman, Hartford.	42.–44.00	"
1789	Lister's U. S. Superphosphate.	Lister's Agricultural Chemical Works, Newark, N. J.	Swan's Seed Store, Bridgeport.	26.00	"
1795	Complete Manure for Light or Sandy Soils.	Mapes' Formula and Peruvian Guano Co., New York.	Wilson & Burr, Middletown.	48.00	"
			W. W. Cooper, Suffield.	48.00	"
			Mapes' Branch, Hartford.	48.00	"
1764	Soluble Pacific Guano Co's Fish and Potash.	Soluble Pacific Guano Co., Boston, Mass.	H. A. Stillman, Hartford.	30.–32.00	"
			Jas. Greenfield, New London.	35.00	"
1713	Baker's A. A. Ammoniated Superphosphate.	H. J. Baker & Bro., 215 Pearl St., New York.	W. W. Cooper, Suffield.	37.50	"
			S. J. Hall, Meriden.	37.50	"
			Smith & Sons, West Cornwall.	35.00	"
1774	Bowker's Hill and Drill Phosphate.	Bowker Fertilizer Co., 43 Chatham St., Boston, Mass.	Jas. Greenfield, New London.	38.00	"
1729	Great Planet Fertilizer, B Brand.	Clark's Cove Guano Co., New Bedford, Mass.	J. H. Ives, Danbury, Ct.	48.00	"
1750	Pelican Bone Fertilizer.	H. J. Baker & Bro., 215 Pearl St., New York.	G. H. Alford, Winsted.	32.50	"
1762	Stearns' Ammoniated Bone Superphosphate.	Stearns & Co., 124 Front St., New York.	A. R. Russell & Co., Meriden.	35.00	"
			J. E. Leonard, Jewett City.	38.00	"
1732	Market Bone Fertilizer.	Adams & Thomas, Springfield, Mass.	Moran Bros., Windsor Locks.	38.00	"

* The manufacturer states that this brand should not retail above $36.00 per ton.

NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—*Continued.*

Station No.	Name or Brand.	Manufacturer.	Dealer.	Cost per ton.	Sampled by
1782	Darling's Animal Fertilizer.	L. B. Darling Fertilizer Co., Pawtucket, R. I.	Olds & Whipple, Hartford.	$40.00	Station Agent.
			W. W. Cooper, Suffield.	38.00	"
			H. P. Hubbard, Middletown.	38.00	"
1798	Warranted No. 1 Peruvian Guano.	Hurtado & Co., 16 Exchange Place, New York.	Southmayd & Gardiner, Middletown	--------	"
			Wheeler & Howes, Bridgeport.	62.00	"
1772	Bradley's Fish and Potash, Triangle A Brand.	Bradley Fertilizer Co., 27 Kilby St., Boston.	Wheeler & Howes, Bridgeport.	31.–32.00	"
1767	Stearns' Fish and Potash, No. 1, Eagle Brand.	Stearns & Co., 124 Front St., New York.	A. R. Russell & Co., Meriden.	35.00	"
1660	Cecrops or Dragon's Tooth Fertilizer.	Newton & Ludlam, 182 Front St., New York.	S. Banks, Southport.	40.00	"
1780	Excelsior Guano.	E. Frank Coe, 16 Burling Slip, New York.	Arnold Rudd, New London.	42.00	"
1731	Bay State Fertilizer.	Clark's Cove Guano Co., New Bedford, Mass.	A. B. Crandall, Tolland.	38.00	"
1822	Quinnipiac Extra Phosphate.	Quinnipiac Fertilizer Co., New London.	Coe & Marsh, Litchfield.	--------	"
			Olds & Whipple, Hartford.	35.00	"
1676	E. F. Coe's High Grade Ammoniated Superphosphate.	E. Frank Coe, 16 Burling Slip, New York.	S. Banks, Southport.	34.00	"
			Arnold Rudd, New London.	35.00	"
			Strong & Backus, Colchester.	36.00	"
			J. B. Carpenter, West Willington.	36.00	"
1716	Bowker's Dissolved Bone.	Bowker Fertilizer Co., 43 Chatham St., Boston.	Jas. Greenfield, New London.	36.00	"
			Strong & Backus, Colchester.	36.00	"
			Seymour & Bonhite, Ridgefield.	40.00	"
1711	Quinnipiac Phosphate.	Quinnipiac Fertilizer Co., New London.	Usher & Tinker, Plainville.	40.00	"
			D. B. Judd, Bristol.	40.00	
1760	Royal Bone Phosphate.	Williams, Clark & Co., Hanover Square, New York.	J. P. Root, Tolland.	30.00	"
			E. M. Jennings, Southport.	30.00	"

NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—*Continued.*

Station No.	Name or Brand.	Manufacturer.	Dealer.	Cost per ton.	Sampled by
1730	Great Planet Fertilizer, A Brand.	Clark's Cove Guano Co., New Bedford, Mass.	J. H. Ives, Danbury.	$47.00	Station Agent.
1818	Chittenden's Ammoniated Bone Superphosphate.	National Fertilizer Co., Bridgeport.	T. H. Eldredge, Norwich.	35.00	"
1819	Economical Bone Fertilizer.	Wilkinson & Co., 239 Center St., New York City.	Nelson Hanford, So. Wilton.	32.00	"
1714	Victor Phosphate, A 1.	Apothecaries' Hall, Waterbury.	Variety Store, Winsted.	35.00	"
			Apothecaries' Hall, Waterbury.	35.00	"
1777	Ammoniated Superphosphate.	Buffalo Fertilizer and Chemical Works, Buffalo, N. Y.	J. E. Leonard, Jewett City.	38.00	"
1677	Bradley's Superphosphate.	Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.	A. C. Sternberg, Hartford.	38.00	"
			Chas. Jennings & Son, Southport.	40.00	"
			Usher & Tinker, Plainville.	40.00	"
			D. B. Judd & Co., Bristol.	40.00	"
			Strong & Backus, Colchester.	38.00	"
			Wm. D. Holman, West Willington.	38.00	"
1673	Quinnipiac Fish and Potash, Crossed Fishes Brand.	Quinnipiac Fertilizer Co., New London.	E. A. Godfrey, Westport.	38.00	"
			Olds & Whipple, Hartford.	38.00	"
			Usher & Tinker, Plainville.	38.00	"
1766	Fish and Potash.	Williams, Clark & Co., Hanover Square, New York.	E. M. Jennings, Southport.	34.00	"
1765	Original Coe's Superphosphate.	Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.	Wm. D. Holman, West Willington.	35.00	"
			Wheeler & Howes, Bridgeport.	--------	"
1662	Cereal Fertilizer.	Newton & Ludlam, New York.	S. Banks, Southport.	$34.00	"
1675	Soluble Pacific Guano.	Soluble Pacific Guano Co., Boston, Mass.	Jas. Greenfield, New London.	38.00	"
			J. B. Carpenter, West Willington.	36.00	"
			H. A. Stillman, Hartford.	36.–38.00	"

NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—*Continued.*

Station No.	Name or Brand.	Manufacturer.	Dealer.	Cost per ton.	Sampled by
1766	Fish and Potash.	Williams, Clark & Co., Hanover Square, New York.	E. M. Jennings, Southport.	34.00	Station Agent.
1768	Circle Brand, Bone and Potash.	Wm. L. Bradley, Boston, Mass.	J. E. Leonard, Jewett City.	35.00	"
1773	B. D. Sea Fowl Guano.	Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.	W. W. Cooper, Suffield.	38.00	"
1838	Fish and Potash, "Fish Brand."	John Guyer, New Haven, G. W. Miles, Agent.	Raymond Brothers, South Norwalk.	36.00	"
			G. L. Gage, Ridgefield.	40.00	"
1663	Wilkinson & Co's Ammoniated Superphosphate.	Wilkinson & Co., 239 Center St., New York.	Ferris & Nolan, Stamford.	38.00	"
1749	Russel Coe's Ammoniated Bone Superphosphate.	Russel Coe Fertilizer Co., 88 Wall St., New York.	S. J. Hall, Meriden.	34.00	"
			H. A. Stillman, Hartford.	32.–34.00	"
1821	Quinnipiac Fish and Potash, Plain Brand.	Quinnipiac Fertilizer Co., New London.	D. B. Warner & Son, East Haddam.	32.50	"
			Usher & Tinker, Plainville.	33.00	"
			Olds & Whipple, Hartford.	34.00	"
1850	Bowker's Fish and Potash.	Bowker Fertilizer Co., 43 Chatham St., Boston, Mass.	H. K. Brainard, Thompsonville	33.00*	"
1664	Cook's Blood Guano.	Read & Co., 88 Wall St., New York.	Swan's Seed Store, Bridgeport.	37.–38.00	"
1790	Mitchell's Standard Superphosphate	A. Mitchell, Tremley Pt., Staten Is.	J. A. Lewis, Williamantic.	36.00	"
1784	Bowker's Fish and Potash.	Bowker Fertilizer Co., 43 Chatham St., Boston, Mass.	Burtis & Mead, New Canaan.	35.00*	"
			Seymour & Barhite, Ridgefield.	38.00*	"
1740	Common Sense Fertilizer, No. 2.	Common Sense Fertilizer Co., 42 Congress St., Boston, Mass.	D. Beers, Danbury.	35.00	"
			Jas. Greenfield, New London.	35.00	"
1737	Charter Oak Fertilizer.	Paul Thomson, Hartford, Ct.	J. R. Cogswell, Putnam.	30.00	"
			B. B. Warner & Son, Plainville.	30.00	"
1776	Common Sense Fertilizer, No. 3.	Common Sense Fertilizer Co., 42 Congress St., Boston, Mass.	Soule & Staub, New Milford.	40.00	"

* Manufacturer states that selling price should be about $32.–$33.00.

Analyses of Nitrogenous Superphosphates and Guanos Sampled by the Station.

Station No.	Name or Brand.	Nitrogen.					Phosphoric Acid.							Potash.		Chlorine.	Cost per Ton.	Valuation per Ton.	Percentage Difference between Cost and Valuation.
		Nitrogen as Nitrates.	Nitrogen as Ammonia.	Nitrogen, Organic.	Total Nitrogen Found.	Nitrogen Guaranteed.	Soluble.	Reverted.	Insoluble.	Total Found	Total Guaranteed.	Available. Found.	Available. Guaranteed	Found.	Guaranteed.				
1791	Mapes' Fine Dissolved Bone.	----	----	2.38	2.38	2.1	5.17	11.99	2.02	19.18	----	17.16	12.0	----	----	----	$35.00	$35.56	----
1819	Quinnipiac Dry Ground Fish.	----	----	8.43	8.43	7.5	1.12	5.18	1.28	7.58	----	6.30	4.0	----	----	----	40.00	38.99	2.6
1763	Stearns' Pure Ground Fish Guano	----	----	8.53	8.53	7.8	1.08	4.24	1.81	7.13	----	5.32	----	----	----	----	40.00	38.63	3.2
1769	Acme Fertilizer, No. 2	----	4.66	1.39	6.05	5.0	6.99	1.65	.64	9.28	8.5	8.64	8.0	7.13	5.0	4.23	45.00	42.28	6.4
1745	Quinnipiac Phosphate	----	.82	3.44	4.26	2.7	7.21	3.48	.78	11.47	---	10.69	9.0	3.89	2.0	3.25	38.00	35.27	7.7
1799	Chittenden's Fish and Potash	----	.96	3.51	4.47	3.3	1.85	5.71	.94	8.50	6.0	7.56	----	5.32	5.0	4.57	35 00	32.08	9.1
1671	Quinnipiac Phosphate	----	1.73	1.25	2 98	2.5	7.56	4.81	.65	13.02	----	12.37	8.0	4.48	2.0	1.78	38.00	34.65	9.5
1748	Swift Sure Superphosphate	.47	----	2.34	2.81	2.5	10.24	2.40	.99	13.63	----	12.64	9.0	5.33	4.0*	trace	40.00	36.13	10.7
1770	Acme Fertilizer, No. 1	----	3.43	1.14	4.57	3.7	7.41	1.37	.58	9.36	8.5	8.78	----	10.01	9.0	----	45.00	40.05	12.3
1755	E. Frank Coe's Alkaline Bone	----	.22	1.84	2.06	.8	8.54	2.48	1.67	12.69	----	11.02	9.0	2.61	3.0*	.32	32.00	28.22	13.4
1728	Bosworth's Superphosphate of Lime	----	1.17	1.37	2.54	2.0	6.58	4.46	4.53	15.57	----	11.04	11.0	3.02	2.0	2.75	36.00	31.50	14.2
1736	Kelsey's Fish and Potash	----	.41	2.93	3.34	2.4	1.12	1.49	.22	2.83	3.0	2.61	----	3.29	3.0	----	21-21.50	18.44	15.3
1735	Mapes' Complete "A" Brand	.38	.51	2.17	3.06	2.4	6.98	5.20	1.98	14.16	----	12.18	10.0	3.31	2.5	4.72	38–40	33.64	15.9
1671	Mapes' Complete for General Use	.43	1.17	2.02	3.62	3.3	6.71	3.70	2.36	12.77	10.0	10 41	----	4.82	4.0	3.01	39–43	34.80	17.8
1679	Americus Superphosphate	----	.14	2.62	2.76	2.4	9.52	2 05	.81	12.38	11.0	11.57	----	2.94	2 0	.37	36–38	31.35	18.0
1797	Lister's Standard Phosphate	----	.60	1.75	2.35	2.3	8.93	2.46	.61	12.00	---	11.39	10.0	2.00	1.5	1.43	33–34	28.22	18.6
1737	Golden Leaf Fertilizer	----	2.92	.86	3.78	3.7	6.32	2.13	3.44	11.89	8.0	8.45	----	6.60	7.0	.81	42–44	36.08	19.2
1789	Lister's U. S. Superphosphate	----	.30	1.25	1.55	1.3	5.78	2.69	.69	9.16	----	8.47	6.0	3.09	2.0	6.51	26.00	21.69	19.9

* As Sulphate.

ANALYSES OF NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—*Continued.*

Station No.	Name or Brand.	Nitrogen.					Phosphoric Acid.							Potash.		Chlorine.	Cost per Ton.	Valuation per Ton.	Percentage Difference between Cost and Valuation.
		Nitrogen as Nitrates.	Nitrogen as Ammonia.	Nitrogen, Organic.	Total Nitrogen Found.	Nitrogen Guaranteed.	Soluble.	Reverted.	Insoluble.	Total Found	Total Guaranteed.	Available. Found.	Available. Guaranteed	Found.	Guaranteed.				
1795	Mapes' Complete for Light Soils	.71	2.55	2.45	5.71	4.9	4.50	3.91	1.21	9.62	7.0	8.41	----	6.96	6.0	5.29	$48.00	$40.10	20.2
1764	Pacific Guano Co's Fish and Potash	----	.30	2.59	2.89	2.4	5.42	1.98	2.38	9.78	6.0	7.40	----	4.45	4.0	5.66	30–35	26.77	21.4
1713	Bakers' A. A. Superphosphate	----	1.63	.87	2.50	2.4	10.91	.35	.03	11.39	----	11.26	10.0	3.02	2.0	3.85	35-37.50	29.56	22.6
1774	Bowker's Hilland Drill Phosphate	----	1.38	1.74	3.12	2.4	9.89	1.44	.70	12.03	11.0	11.33	----	1.57	2.0*	1.48	38.00	30.77	23.5
1729	Great Planet Fertilizer B.	2.63	2.04	1.18	5.85	5.0	5.24	.95	.27	6.46	----	6.19	5.0	7.47	7.0	2 44	48.00	38.67	24.1
1750	Pelican Bone Fertilizer	----	.69	2.21	2.90	1.8	7.69	.88	.04	8.61	----	8.57	8.0	2.91	2.2	5.88	32.50	26.17	24.2
1762	Stearns' Ammoniated Superphosphate	.53	----	2.36	2.89	2.3	7.14	2.67	1.13	10.94	----	9 81	8.0	3.81	2.0	4.53	35–38	29.33	24.5
1732	Market Bone Fertilizer	----	.50	3.03	3.53	3.0	4.29	4.86	.31	9.46	9.0	9.15	8.0	4.65	3.0	3.46	38.00	30.46	24.7
1782	Darling's Animal Fertilizer	.29	.41	3.12	3.82	3.3	1.93	4.87	5.11	11.91	10.0	6.80	----	5.21	4.0	6.62	38–40	31.10	25.4
1798	Warranted No. 1 Peruvian Guano	----	6.76	.84	7.60	7.4	1.91	8.25	4.09	14.25	12.0	10.16	----	3.42	2.0	1.65	62.00	48.96	26.6
1772	Bradley's Fish and Potash, Triangle A	----	.46	3.43	3.89	2.0	1.67	1.90	1.13	4.70	6.00	3.57	4.0	6.22	4.0	7.96	31–32	24.85	26.7
1767	Stearns' Fish and Potash, No. 1, Eagle Brand	----	----	3.07	8.08	2.4	3.04	3.77	4.00	10.81	8.0	6.81	3.0	5.01	1.7	7.29	35.00	27.62	26.7
1660	Cecrops or Dragon's Tooth Fertilizer	----	.95	2.41	3.36	3.3	6.51	1.01	.96	8.48	----	7.52	7.0	8.32	7.0	8.96	40.00	31.29	27.8

* As Sulphate.

Analyses of Nitrogenous Superphosphates and Guanos Sampled by the Station—*Continued.*

Station No.	Name or Brand.	Nitrogen.					Phosphoric Acid.							Potash.		Chlorine.	Cost per Ton.	Valuation per Ton.	Percentage Difference between Cost and Valuation.
		Nitrogen as Nitrates.	Nitrogen as Ammonia.	Nitrogen, Organic.	Total Nitrogen Found.	Nitrogen Guaranteed.	Soluble.	Reverted.	Insoluble.	Total Found	Total Guaranteed.	Available. Found.	Available. Guaranteed	Found.	Guaranteed.				
1780	Excelsior Guano	----	.95	2.72	3.67	3.3	8.36	1.46	1.23	11.05	10.0	9.82	----	3.11	5.0*	.59	$42.00	$32.29	30.0
1731	Bay State Fertilizer	----	.49	2.16	2.65	2.1	9.21	1.25	1.03	11.49	9.0	10.46	----	2.78	2.0	.89	38.00	29.15	30.3
1822	Quinnipiac Extra Phosphate	----	.36	2.45	2.81	2.3	5.78	3.67	.92	10.37	----	9.45	8.0	2.20	1.0	2.68	35.00	26.83	30.4
1676	E. F. Coe's High Grade Superphosphate	----	.59	1.60	2.19	2.1	8.00	2.07	1.99	12.06	----	10.07	9.0	1.79	2.0*	.12	34–36	26.65	31.3
1716	Bowker's Dissolved Bone	----	.30	1.81	2.11	2.0	9.43	1.97	.82	12.22	10.0	2.79	8.0	1.88	4.0*	4.55	36.00	27.40	31.4
1711	Quinnipiac Phosphate	----	.47	2.63	3.10	2.7	7.11	2.75	.44	10.30	----	9.86	9.0	2.72	2.0	4.25	38.00	28.75	32.1
1760	Royal Bone Phosphate	----	----	1.18	1.18	.8	6.52	2.88	.36	9.76	8.0	9.40	----	2.84	2.0	.56	29.00	21.92	32.3
1730	Great Planet Fertilizer A	---	1.92	1.92	3.84	3.3	7.09	.91	.64	8.64	----	7.80	7.0	10.02	9.5	6.78	47.00	35.49	32.4
1818	Chittenden's Ammoniated Superphosphate	----	.18	2.51	2.69	1.6	6.10	2.78	1.51	10.39	9.0	8.88	7.0	2.68	2.0	5.44	35.00	26.32	32.9
1849	Wilkinson's Econ'm'al Bone	----	1.91	.28	2.19	.8	5.61	1.66	1.27	8.54	6.0	7.27	----	4.48	2.0	11.11	32.00	24.06	33.0
1714	Victor Phosphate, A1	----	.18	2.06	2.24	2.3	8.32	1.43	1.10	10.85	---	9.75	8.5	2.28	3.5*	.09	35.00	26.27	33.2
1777	Buffalo Ammoniated Superphosphate	----	---	3.14	3.14	2.9	8.08	1.64	1.24	10.96	----	9.72	8.0	1.52	1.0	.56	38.00	28.30	34.2
1677	Bradley's Superphosphate	.13	.44	2.23	2.80	2.3	8.58	1.79	1.62	11.99	----	10.37	9.0	2.07	1.0	1.85	38–40	28.86	35.1
1673	Quinnipiac Fish and Potash, Crossed fishes brand	----	.55	3.20	3.70	3.3	2.02	3.39	1.46	6.87	5.0	5.41	----	6.90	3.0	5.58	38.00	27.98	35.8
1766	Williams, Clark & Co's Fish and Potash	----	.16	3.58	4.74	3.0	.36	4.32	2.49	7.17	6.0	4.68	----	4.36	4.0	8.58	34.00	25.02	35.9
1765	Original Coe's Superphos'ate	----	----	2.24	2.24	2.1	7.70	2.52	1.14	11.36	11.0	10.22	9.0	1.23	----	2.02	35.00	25.45	37.5
1662	Cereal Fertilizer	----	----	1.18	1.18	1.2	9.96	1.71	.72	12.29	12.0	11.67	10.0	2.06	4.0*	2.79	34.00	24 70	37.6

* As Sulphate.

ANALYSES OF NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—*Continued.*

Station No.	Name or Brand.	Nitrogen.					Phosphoric Acid.							Potash.		Chlorine.	Cost per Ton.	Valuation per Ton.	Percentage Difference between Cost and Valuation.
		Nitrogen as Nitrates.	Nitrogen as Ammonia.	Nitrogen, Organic.	Total Nitrogen Found.	Nitrogen Guaranteed.	Soluble.	Reverted.	Insoluble.	Total Found	Total Guaranteed.	Available. Found.	Available. Guaranteed.	Found.	Guaranteed.				
1675	Soluble Pacific Guano	----	.45	1.93	2.38	2.00	7.31	2.01	2.61	11.93	----	9.32	8.0	2.50	2.00	2.84	$36–38	$26.65	38.8
1766	Williams, Clark & Co's Fish and Potash	----	---	3.27	3.27	3.3	.40	5.35	1.48	7.23	3.00	5.75	----	4.26	3.0	8.73	34.00	24.30	39.9
1768	Circle Brand Bone and Potash	----	----	2.09	2.09	2.26	3.42	5.39	2.71	11.52	8.00	8.81	----	2.73	2.00	----	35.00	24.62	42.1
1773	B. D. Sea-Fowl Guano	----	.41	1.79	2.20	2.50	7.88	2.40	1.70	11.98	11.00	10.28	----	1.92	2.00	2.10	38.00	26.47	43.5
1838	Miles' Fish and Potash	----	----	2.53	2.53	2.5	6.15	2.17	1.47	9.79	----	8.32	5.0	2.73	4.0*	4.90	36.00	24.90	44.6
1663	Wilkinson's Ammoniated Superphosphate	----	----	2.09	2.09	1.7	7.58	1.31	.20	9.09	---	8.89	----	5.14	2.00	7.82	38.00	25.69	47.8
1749	Russel Coe's Ammoniated Bone Superphosphate	----	----	2.13	2.13	2.26	5.98	2.03	1.21	9.22	----	8.01	9.00	2.02	1.50	7.50	32–34	22.31	47.9
1821	Quinnipiac Fish and Potash, Plain Brand	----	.46	2.43	2.89	2.00	.44	3.95	2.01	6.40	6.00	4.39	4.00	5.46	4.00	6.47	32.50-34	22.42	48.3
1850	Bowker's Fish and Potash	----	0.8	2.67	2.75	2.5	2.55	2.36	2.06	6.97	8.00	4.91	----	4.25	4.00	9.86	33.00	21.85	51.0
1664	Cook's Blood Guano	----	----	2.26	2.26	1.24	6.25	1.79	1.24	9.28	10.00	8.04	7.00	3.33	1.00	4.37	37–38	23.94	56.6
1790	Mitchell's Standard Superphosphate	----	----	1.12	1.12	2.06	7.36	3.46	.76	11.58	11.00	10.82	----	1.36	3.00	1.71	36.00	22.37	60.9
1784	Bowker's Fish and Potash	----	----	2.20	2.20	2.5	3.24	1.70	1.66	6.60	8.00	4.94	----	5.72	4.00	12.75	35.00	21.07	66.1
1740	Com Sense Fertilizer, No. 2	.71	.24	1.14	2.09	2.00	----	4.52	.73	5.25	4.00	4.52	----	4.93	3.00	4.67	35.00	18.80	86.1
1737	Charter Oak Fertilizer	1.94	.28	.77	2.99	1.65	trace	1.48	.77	2.25	2.25	1.48	----	2.65	2.00	----	30.00	15.77	90.2
1776	Com. Sense Fertilizer, No. 3	.91	none	.96	1.87	3.00	.19	2.76	2.01	4.96	5.00	2.95	----	4.15	3.00	3.70	40.00	15.80	153.1

* Sulphate.

Special Manures Sampled by the Station.

Station No.	Name or Brand.	Manufacturer.	Dealer.	Cost per Ton.	Sampled by
1746	Quinnipiac Potato Manure.	Quinnipiac Fertilizer Co., N. London.	Berry & Sherman, Bridgeport.	$38.00	Station Agent.
1792	Mapes' Grass and Spring Top Dressing.	Mapes' Formula and Peruvian Guano Co., 158 Front St., New York.	Mapes' Branch, Hartford.	45.00	"
1665	Quinnipiac Potato Manure.	Quinnipiac Fertilizer Co., N. London.	E. A. Godfrey, Westport.	38.00	"
1793	Mapes' Tobacco Manure, Conn. Brand.	Mapes' Formula and Peruvian Guano Co., New York.	Mapes' Branch, Hartford.	48.00	"
1796	Mapes' Corn Manure.	Mapes' Formula and Peruvian Guano Co., New York.	" "	44.00	"
			J. P. Barstow, Norwich.	44.00	"
1794	Mapes' Tobacco Manure for use with Stems.	Mapes' Formula and Peruvian Guano Co., 158 Front St., New York.	" "	48.00	"
1754	Potato, Hop and Tobacco Phosphate.	Buffalo Fertilizer and Chemical Works, Buffalo, N. Y.	W. G. Staples, Westport.	39.00	"
1781	Stockbridge Forage Crop Manure.	Bowker Fertilizer Co, 43 Chatham St., Boston, Mass.	J. A. Paine, Danielsonville.	45.00	"
			Seymour & Bonhite, Ridgefield.	45.00	"
			Brewster & Burnett, Norwich.	45.00	"
1752	H. J. Baker's Tobacco Fertilizer.	H. J. Baker & Bro., 215 Pearl St., New York.	C. S. Smith, Kent, Ct.	45.00	"
1717	Mapes' Potato Manure.	Mapes' Formula and Peruvian Guano Co., 158 Front St., New York.	Dean & Horton, Stamford.	48.00	"
			Birdsey & Foster, Meriden.	47.50	"
			Mapes's Branch, Hartford.	46.00	"
1761	Potato Phosphate.	Williams, Clark & Co., Hanover Square, New York.	J. P. Root, Tolland.	44.00	"
			E. M. Jennings, Southport.	44.00	"
1678	Stockbridge Vegetable Manure.	Bowker Fertilizer Co., 43 Chatham St., Boston, Mass.	J. E. Leonard, Jewett City.	45.00	"
			Jas. Greenfield, New London.	45.00	"
			F. Ellsworth, Hartford.	45.00	"
1753	H. J. Baker's Corn Fertilizer.	H. J. Baker & Bro., 215 Pearl St., New York.	C. S. Smith, Kent.	45.00	"
1779	Stockbridge Grain Manure.	Bowker Fertilizer Co., 43 Chatham St., Boston Mass.	Burtis & Mead, New Canaan.	45.00	"
1712	H. J. Baker's Potato Fertilizer.	H. J. Baker & Bro., 215 Pearl St., New York.	G. H. Alford, Winsted.	45.00	"
			W. W. Cooper, Suffield.	45.00	"
1672	Quinnipiac Potato Manure.	Quinnipiac Fertilizer Co., N. London.	Usher & Tinker, Plainville.	40.00	"
			D. B. Judd, Bristol.	40.00	"
			Olds & Whipple, Hartford.	40.00	"

Analyses of Special Manures Sampled by the Station.

Station No.	Name or Brand.	Nitrogen.					Phosphoric Acid.							Potash.		Chlorine.	Cost per Ton.	Valuation per Ton.	Percentage Difference between Cost and Valuation.
		Nitrogen as Nitrates.	Nitrogen as Ammonia.	Nitrogen Organic.	Total Nitrogen Found.	Nitrogen Guaranteed.	Soluble.	Reverted.	Insoluble.	Total Found	Total Guaranteed.	Available. Found.	Available. Guaranteed.	Found.	Guaranteed.				
1746	Quinnipiac Potato Manure	----	3.66	1.37	5.03	3.5	6.73	.70	.11	7.54	---	7.43	5.0	6.92	6.0	trace	$38.00	$37.69	.8
1792	Mapes' Grass and Grain Spring Top Dressing	.61	2.30	2.40	5.31	4.1	7.97	3.59	.73	12.29	7.0	11.56	----	7.82	5.0	7.10	45.00	44.16	1.9
1665	Quinnipiac Potato Manure	----	2.08	1.99	4.07	3 2	4.12	4.22	.81	9.15	----	8.34	5.0	6.92	6.0	.60	38.00	35.29	7.6
1793	Mapes' Tobacco Manure, Conn. Brand	.65	2.21	2.85	5.71	4.7	7.96	1.35	.38	9.69	7.7	9.31	----	8.08	7.7	.44	48.00	44.00	9.1
1796	Mapes' Corn Manure	.63	1.37	2.35	4.35	3.7	8.18	3.67	.69	12.54	10.0	11.85	---	6.62	6.0	5.39	44.00	40.03	9.9
1794	Mapes' Tobacco Manure for use with Stems	.29	3.55	2.06	5.90	5.3	8.20	2.80	.87	11.87	10.5	11.00	----	3.86	3.5	.47	48.00	43.13	11.3
1754	Potato, Hop and Tobacco Phosphate	----	----	3.05	3.05	2.0	8.52	2.56	.72	11.80	----	11.08	8.0	4.43	3.5	3.80	39.00	32.04	21.7
1781	Stockbridge Grass Top Dressing	----	3.01	2.30	5.31	5.5	8.23	1.18	.60	10.01	6.0	9.41	5.0	3.09	2.5	3.49	45.00	36.89	21.9
1752	H. J. Baker's Tobacco Fertilizer	----	3.80	1.37	5.17	4.5	4.06	1.17	.21	5.44	----	5.23	4.0	9.03	8.0	1.19	45.00	36.65	22.7
1717	Mapes' Potato Manure	.57	1.72	1.60	3.89	3.7	6.61	3.51	.98	11.10	8.0	10.12	----	7.39	6.0*	.62	46.48	38.27	22.8
1761	Williams, Clark & Co's Potato Phosphate	----	2.06	1.58	3.64	3.3	6.64	1.46	.31	8.41	7.0	8.10	----	8.42	15.0*	.49	44.00	35.09	25.4
1678	Stockbridge Vegetable Manure	----	1.19	2.06	3.25	3.3	10.32	1.71	.81	12.84	8.0	12.03	----	3.97	5.0	4.26	45.00	34.43	30.7
1753	H. J. Baker's Corn Fertilizer,	----	3.37	1.15	4.52	5.0	6.24	.63	trace	6.87	----	6.87	6.0	8.32	7.0	6.57	45.00	34.37	30.9
1779	Stockbridge Grain Manure	----	----	3.32	3.32	3.7	9.54	1.14	1.17	11.85	7.0	10.68	6.0	5.88	4.0	6.16	45.00	33.96	32.5
1712	H. J. Baker's Potato Fertilizer	----	3.00	.59	3.59	3.3	5.79	.47	trace	6.26	----	6.26	5.0	10.13	10.0	3.68	45.00	33.01	36.3
1672	Quinnipiac Potato Manure	----	.82	2.67	3.49	3.7	3.97	2.58	.58	7.13	----	6.55	5.0	6.59	6.0	8.11	40.00	28.28	41.4

*As Sulphate.

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